

Tellers who are trained to sell insurance products must receive a State license to sell insurance. This requires passing an examination, usually after taking a prelicensing course. (See the statement on insurance sales agents elsewhere in the *Handbook*.)

Job Outlook

Employment of bank tellers is expected to decline through 2008. Nevertheless, many job openings will arise from replacement needs, because turnover is high—a characteristic typical of large occupations that normally require little formal education and offer relatively low pay. Applicants for part-time jobs should fare better than applicants for full-time positions.

The banking industry will continue to undergo many changes that will impact employment of traditional tellers, who perform only routine transactions. Principal among these are technology, bank mergers, and changing employment needs. For example, ATMs and the increased use of direct deposit of paychecks and benefit checks have reduced the need for bank customers to interact with tellers for routine transactions. In addition, electronic banking is spreading rapidly throughout the banking industry. This type of banking, conducted over the telephone or through computer networks, will also reduce the number of tellers over the long run.

Bank mergers, particularly those involving competing banks, have reduced the number of branches as the newly formed banks cut costs and eliminate duplicate services. This has adversely affected employment of tellers who work primarily in branch offices. Bank mergers are expected to continue as banks seek to further reduce costs and offer more services that only large banks can provide, such as numerous ATM locations, more types of loans, and securities brokerage and insurance services.

Teller employment is also being impacted by the increasing use of 24-hour phone centers by many large banks. These telephone centers allow a customer to interact with a bank representative at a distant location, either by telephone or video terminal. Customer service representatives, who can handle a wider variety of transactions than tellers, including loan applications and credit card issuance, usually staff such centers.

Even though some banks have streamlined their branches, the total number of bank branches is expected to increase to meet the needs of a growing population. Branches are being added in nontraditional locations, such as grocery stores, malls, and mobile trailers designed to reach people who do not have easy access to banks. Often, these branches are open longer hours and offer greater customer convenience. Many of these nontraditional branch offices are small and are staffed by tellers who are trained as customer service representatives. As a result, tellers who can provide a variety of financial services will be in greater demand in the future.

Earnings

Median annual earnings of full-time bank tellers were \$17,200 in 1998. The middle 50 percent earned between \$14,660 and \$20,180. The lowest 10 percent earned less than \$12,970, while the top 10 percent earned more than \$23,000. Some banks offer incentives that reward tellers for inducing customers to use other financial products and services offered by the bank. In general, greater responsibilities result in a higher salary. Experience, length of service, and, especially, the location and size of the bank also are important. Full-time tellers generally receive a full range of benefits, from life and health insurance to pension benefits, whereas part-time tellers often do not.

Median annual earnings in the industries employing the largest number of bank tellers in 1997 were:

Savings institutions	\$16,800
Commercial banks	16,600
Credit unions	16,500

Related Occupations

Tellers combine customer service and knowledge of bank procedures with quickness and accuracy to process money, checks, and other financial items for customers. Other workers with similar duties include

new accounts clerks, cashiers, toll collectors, post office clerks, auction clerks, and ticket sellers.

Sources of Additional Information

General information about tellers and other banking occupations, training opportunities, and the banking industry is available from:

☛ American Bankers Association, 1120 Connecticut Ave. NW, Washington, DC 20036. Internet: <http://www.aba.com>

State bankers' associations can furnish specific information about job opportunities in their State. Individual banks can provide detailed information about job openings and the activities, responsibilities, and preferred qualifications of tellers.

Communications Equipment Operators

(57102, 57105, 57108, 57111, and 57199)

Significant Points

- About 9 out of 10 communications equipment operators work as telephone operators.
- Workers are trained on the job.
- Employment is expected to decline due to new laborsaving communications technologies and consolidations in the telecommunications industry.

Nature of the Work

Most communications equipment operators work as telephone operators, assisting customers making telephone calls. Although most calls are connected automatically, callers sometimes require the assistance of an operator. *Central office operators* help customers complete local and long distance calls. *Directory assistance operators* provide customers with information such as phone numbers or area codes. *Switchboard operators* usually provide telephone assistance for a single organization; they relay incoming, outgoing, and interoffice calls.

When callers dial "0", they usually reach a central office operator, also known as a *local, long distance, or call completion operator*. Most of these operators work for telephone companies and many of their responsibilities have been automated. For example, callers can make international, collect, and credit card calls without the assistance of a central office operator. Other tasks previously handled by these operators, such as billing calls to third parties or monitoring the cost of a call, have also been automated.

Callers still need a central office operator for a limited number of tasks. These include placing person-to-person calls or interrupting busy lines if an emergency warrants the disruption. When natural disasters occur, such as storms or earthquakes, central office operators provide callers with emergency phone contacts. They also assist callers having difficulty with automated phone systems. An operator monitoring an automated system for placing collect calls, for example, may intervene if a caller needs assistance with the system.

Directory assistance operators provide callers with information such as telephone numbers or area codes. Most directory assistance operators work for telephone companies; increasingly they also work for companies that provide business services. Automated systems now handle many of the responsibilities once performed by directory assistance operators. The systems prompt callers for a listing, and may even connect the call after providing the phone number. However, directory assistance operators monitor many of the calls received by automated systems. The operators listen to recordings of the customer's request, and then key information into electronic directories to access the correct phone numbers. Directory assistance operators also provide personal assistance to customers having difficulty using the automated system.

Switchboard operators work for a wide variety of organizations, such as hospitals, hotels, and other businesses. They often operate private branch exchange (PBX) switchboards to relay incoming, outgoing, and interoffice calls. Switchboard operators may also handle other clerical duties, such as supplying information, taking messages, and announcing visitors. Technological improvements have automated many of the tasks handled by switchboard operators. New systems automatically connect outside calls to the correct destination, and voice mail systems take messages without the assistance of an operator.

Other communications equipment operators include workers who operate telegraphic typewriter, telegraph key, facsimile machine, and related equipment to transmit and receive signals and messages. They prepare messages according to prescribed formats, and verify and correct errors in messages. As part of their job, they may also adjust equipment for proper operation.

Working Conditions

Most communications equipment operators work in pleasant, well-lighted surroundings. Because telephone operators spend much time seated at keyboards and video monitors, employers often provide workstations designed to decrease glare and other physical discomforts. Such improvements reduce the incidence of eye-strain, back discomfort, and injury due to repetitive motion.

Central office and directory assistance operators must be accessible to customers 24 hours a day, and therefore work a variety of shifts. Some operators work split shifts, that is, they are on duty during peak calling periods in the late morning and early evening and



Switchboard operators may perform clerical work when not assisting callers.

off duty during the intervening hours. Telephone companies normally assign shifts by seniority, allowing the most experienced operators first choice of schedules. As a result, entry level operators may have less desirable schedules, including late evening, split shift, and week-end work. Telephone company operators may work overtime during emergencies.

Switchboard operators generally work the same hours as other clerical employees at their company. In most organizations, full-time operators work regular business hours over a 5-day workweek. Work schedules are more irregular in hotels, hospitals, and other organizations that require round-the-clock operator services. In these companies, switchboard operators may work in the evenings and on holidays and weekends.

Approximately 1 in 5 communications equipment operator works part-time. Because of the irregular nature of telephone operator schedules, many employers seek part-time workers for those shifts that are difficult to fill.

An operator's work may be quite repetitive and the pace hectic during peak calling periods. To maintain operator efficiency, supervisors at telephone companies often monitor operator performance including the amount of time spent on each call. The rapid pace of the job and frequent monitoring may cause stress. To reduce job-related stress, some workplaces attempt to create a more stimulating and less rigid working environment.

Employment

Communications equipment operators held about 297,000 jobs in 1998. About 9 out of 10 worked as telephone operators. Employment was distributed as follows:

Switchboard operators	214,000
Directory assistance operators	23,000
Central office operators	23,000
All other communications equipment operators	36,000

Most switchboard operators worked for services establishments, such as personnel supply services, hospitals, and hotels and motels. The majority of central office and directory assistance operators worked in telephone companies.

Training, Other Qualifications, and Advancement

Communications equipment operators receive their training on the job. At large telephone companies, entry level central office and directory assistance operators may receive both classroom and on-the-job instruction that can last several weeks. At small telephone companies, operators usually receive shorter, less formal training. These operators may be paired with experienced personnel who provide hands-on instruction. Switchboard operators may also receive short-term, informal training, sometimes provided by the manufacturer of their switchboard equipment.

New employees receive training on equipment operation and procedures for maximizing efficiency. They are familiarized with company policies, including the level of customer service performance they are expected to deliver. Instructors monitor both the time and quality of trainees' responses to customer requests. Supervisors may continue to closely monitor new employees after their initial training session is complete.

Employers generally require a high school diploma for operator positions, and applicants should have strong reading, spelling, and numerical skills. Operators must have clear speech and good hearing. Computer literacy and typing skills are also important, and familiarity with a foreign language is helpful. Most companies place an emphasis on customer service skills; employers seek operators who will remain courteous to customers while working in a fast-paced environment.

After 1 or 2 years on the job, telephone operators may advance to other positions within a company. Many enter clerical occupations where their operator experience is valuable; these include positions as

customer service agents, dispatchers, and receptionists. Operators with a more technical background and an interest in telecommunications may advance into positions installing and repairing equipment. Promotion to supervisory positions is also possible.

Job Outlook

Employment of communications equipment operators is projected to decline through 2008, largely due to new laborsaving communications technologies and consolidations in the telecommunications industry. Virtually all job openings will result from the need to replace communications equipment operators who transfer to other occupations or leave the labor force.

Developments in communications technologies, specifically the ease and accessibility of voice recognition systems, will continue to have a significant impact on the demand for telephone operators. The decline in employment will be sharpest among directory assistance operators; smaller decreases will occur for central office and switchboard operators. Voice recognition technology allows automated phone systems to recognize human speech. Callers speak directly to the system, which interprets the speech and then connects the call. Because voice recognition systems do not require callers to input data on a telephone keypad, they are easier to use than touch tone systems, and are accessible to rotary phone customers. The systems are also increasingly sophisticated in terms of the vocabulary and grammatical structures they can understand. However, many companies will continue to employ operators so those callers having problems can access a "live" employee if desired.

Electronic communications, such as the Internet and e-mail, provide alternatives to telephone communications and require no operators. Internet directory assistance services are expected to reduce the need for directory assistance operators. Local phone companies currently have the most reliable phone directory data; however, Internet services provide information such as addresses and maps, in addition to phone numbers. As telephones and computers converge, the convenience of Internet directory assistance is expected to attract many customers, eliminating the need for telephone operators to provide this service.

Consolidations among telephone companies also will reduce the need for operators. As communications technologies improve and long distance prices fall, telephone companies will consolidate their operator functions. Operators will be employed at fewer locations and will serve larger customer populations.

Earnings

Median hourly earnings of switchboard operators in 1998 were \$8.76. The middle 50 percent earned between \$7.20 and \$10.63. The lowest 10 percent earned less than \$6.21 and the highest 10 percent earned more than \$12.86. Median hourly earnings in the industries employing the largest numbers of switchboard operators in 1997 are shown below:

Telephone communications	\$10.90
Offices and clinics of medical doctors	8.60
Hospitals	8.40
Hotels and motels	8.30
Personnel supply services	8.30
Miscellaneous business services	7.40

Median hourly earnings of central office operators in 1998 were \$12.61. The middle 50 percent earned between \$8.73 and \$15.97. The lowest 10 percent earned less than \$7.12 and the highest 10 percent earned more than \$18.33.

Median hourly earnings of directory assistance operators in 1998 were \$14.68. The middle 50 percent earned between \$9.94 and \$16.32. The lowest 10 percent earned less than \$7.61 and the highest 10 percent earned more than \$18.42.

Many central office and directory assistance operators working at telephone companies are members of the Communications Workers of America (CWA), or the International Brotherhood of Electrical

Workers (IBEW). According to the CWA, telephone operators started at an average of \$235 a week in 1998, and after 4 years on the job averaged \$654 a week. According to the IBEW, hourly wages for most telephone operators ranged from a minimum of about \$10.50 to a maximum of about \$17.30 in 1999. For these operators, union contracts govern wage rates, wage increases, and the time required to advance from one pay step to the next (it normally takes 4 years to rise from the lowest paying, nonsupervisory operator position to the highest). Contracts also call for extra pay for work beyond the normal 6 1/2 to 7 1/2 hours a day or 5 days a week, for Sunday and holiday work, and for a pay differential for night work and split shifts. Many contracts provide for a 1-week vacation with 6 months of service; 2 weeks for 1 to 6 years; 3 weeks for 7 to 14 years; 4 weeks for 15 to 24 years; and 5 weeks for 25 years and over. Holidays range from 9 to 11 days a year.

Related Occupations

Other workers who provide information to the general public include dispatchers; hotel, motel, and resort desk clerks; information clerks; receptionists; reservation and transportation ticket agents; and travel clerks.

Sources of Additional Information

For more details about employment opportunities, contact your telephone company or write to:

- ✦ Communications Workers of America, 501 3rd St. NW., Washington, DC 20001. Internet: <http://www.cwa-union.org>
- ✦ International Brotherhood of Electrical Workers, Telecommunications Department, 1125 15th. St. NW., Room 807, Washington, DC 20005.

For more information on the telephone industry, contact:

- ✦ United States Telephone Association, 1401 H St. NW., Suite 600, Washington, DC 20005-2164. Internet: <http://www.usta.org>

Computer Operators

(O*NET 56011 and 56014)

Significant Points

- Employment is expected to decline sharply, due to advances in technology.
- Opportunities will be best for operators who are familiar with a variety of operating systems and who keep up to date with the latest technology.

Nature of the Work

Computer operators oversee the operation of computer hardware systems, ensuring that these machines are used as efficiently as possible. They may work with mainframes, minicomputers, or networks of personal computers. Computer operators must anticipate problems and take preventive action, as well as solve problems that occur during operations.

The duties of computer operators vary with the size of the installation, the type of equipment used, and the policies of the employer. Generally, operators control the console of either a mainframe digital computer or a group of minicomputers. Working from operating instructions prepared by programmers, users, or operations managers, computer operators set controls on the computer and on peripheral devices required to run a particular job.

Computer operators load equipment with tapes, disks, and paper, as needed. While the computer is running—which may be 24 hours a day for large computers—computer operators monitor the control console and respond to operating and computer messages. Messages indicate the individual specifications of each job being run. If an error